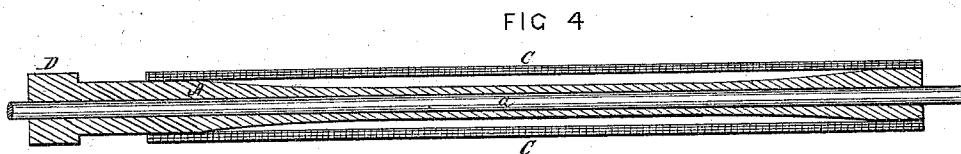
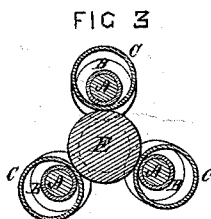
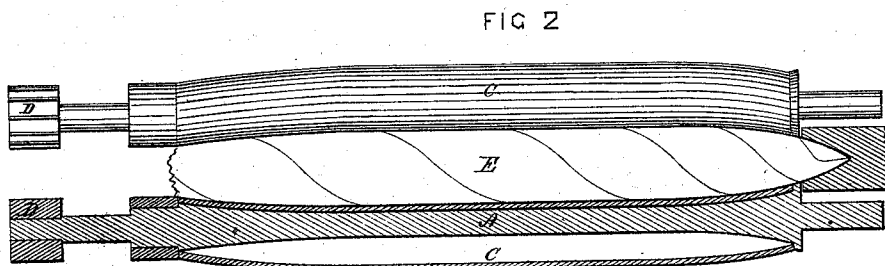
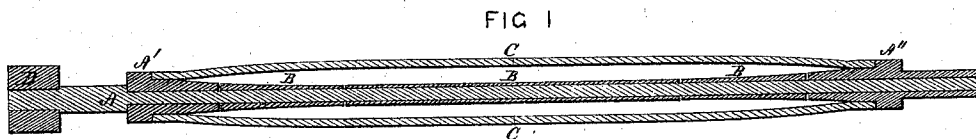


D. A. WIGHTMAN.
Cigar-Machines.

No. 140,859.

Patented July 15, 1873.



WITNESSES

John H. Griscol
Stephen Smith

Daniel A. Wightman

UNITED STATES PATENT OFFICE.

DANIEL A. WIGHTMAN, OF EAST GREENWICH, ASSIGNOR TO SOCRATES SCHOLFIELD, OF PROVIDENCE, RHODE ISLAND.

IMPROVEMENT IN ROLLS FOR CIGAR-MACHINES.

Specification forming part of Letters Patent No. 140,859, dated July 15, 1873; application filed November 22, 1872.

To all whom it may concern:

Be it known that I, DANIEL A. WIGHTMAN, of East Greenwich, in the county of Kent and State of Rhode Island, have invented an Improvement in Rolls for Cigar-Machines, of which the following is a specification:

The nature of my invention consists in an improved roll for forming-up or shaping cigar-bunches and rolling on the binders or wrappers, consisting of a central revolving shaft, arranged to support a flexible tube or wire spiral of greater diameter than such shaft at the central cross-section thereof, and so operating that in its revolution the tube or spiral will be continually caused by the outward pressure of the inclosed bunch to conform on that side to the tapering form of a cigar by forcing the middle portion of the tube or spiral to revolve eccentrically, while its end or ends are made to move concentrically with such shaft.

Figure 1 is a longitudinal sectional view of a single roll as employed in a binding-machine. Fig. 2 is a view of the two opposite rolls of a wrapping-machine, showing the deflection of the tube or spiral consequent upon the pressure of the inclosed cigar-bunch. Fig. 3 is a sectional view of a cluster of rolls taken transversely at the middle of the inclosed cigar. Fig. 4 is a sectional view of a similar roll, made with a flexible covering, attached to a hollow shaft so as to be revolved upon a stationary rod.

Referring to the drawing, A, in Fig. 1, is a solid central shaft, to be driven by means of the gear D, and upon which one or more friction-rolls, B B B, may be placed. The flexible tubular covering C is secured at either one or both of its ends to the fixed collars or sleeves A' and A'', so as to turn therewith, and may be made either of uniform diameter from end to end, or enlarging from the ends toward the middle, as shown in Fig. 1, in order that the cigar-bunch may be rolled uniformly without producing a tendency to slip at any point on its surface, the diameter of the roll increasing

and decreasing in the same proportion as that of the inclosed cigar.

The covering C may be made of coiled wire, India rubber, or any flexible material adapted to the purpose.

The friction-rolls B B B are used to avoid the friction of the flexible covering C against the surface of the shaft A owing to the difference in their relative diameters. The friction-rolls B B B will, therefore, partake of the motion due to the diameter of the covering C, and thus revolve faster than the shaft A, upon which they are placed. The diameter of the friction-rolls B B B is so gaged at their several cross-sections as to present the desired longitudinal curve to the surface of the cigar bunch.

The shaft A instead of being made solid, as shown in Figs. 1, 2, and 3, may be made hollow, so as to revolve upon a stationary rod, *a*, as shown in Fig. 4. The surface of the shaft A may, in this case, be hollowed out longitudinally in order to give the proper form to the inclosed cigar.

In rolling the cigar-bunch E the inner side of the flexible covering C will be pressed back against the friction-rolls B B B, shown in Figs. 1 and 3, or against the shaft A, as shown in Figs. 2 and 4, thus producing a cigar-rolling surface, the various cross-sections of which will be caused to revolve with differing eccentricity with the shaft A, upon which it is supported.

I claim as my invention—

1. A revolving shaft, A, in combination with a loose flexible covering, C, arranged to operate with a varying eccentricity in forming a cigar-bunch, substantially as described.

2. The combination of a friction-roll, B, with a flexible tubular covering, C, and revolving shaft A, substantially as described.

DANIEL A. WIGHTMAN.

Witnesses:

D. B. POTTER,
STEPHEN SMITH.